REMARKS

The Office Action mailed on August 20, 2007, has been carefully considered. The following remarks are believed sufficient to place the present application in condition for allowance. Reconsideration is respectfully requested.

Claims 1-23 are currently pending in the instant application. New claims 24-26 have been added for consideration by the Examiner. No new matter is introduced by new claims 24-26. Claim 16 has been amended to provide proper antecedent basis. Claims 1-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 00/61036 ("Sarfarazi") in view of USPN 4,932,968 ("Caldwell"). Applicants respectfully traverse these rejections for the reasons discussed below.

The undersigned and Applicants' counsel, Scott Catlin, wish to thank the Examiner and supervising examiner Corrine McDermott for the personal interview held on December 11, 2007 to discuss the pending rejections over the combination of Sarfarazi and Caldwell. The traversal of the rejection included below was discussed. The Examiner agreed that these arguments appeared to be sufficient to overcome the rejection but that further search and consideration would be required to determine the patentability of the invention as claimed. Additional limitation to the claims were also briefly presented that may further distinguish over the combination of Sarfarazi and Caldwell and are included as new dependent claims

Claims 1-23 Are Patentable Over Sarfarazi and Caldwell.

Sarfarazi teaches an intraocular lens system including anterior and posterior lenses coupled together by a plurality of elliptical haptics. Sarfarazi, page 16, lines 12-13. The intraocular lens system cooperates with the ciliary muscle, zonula, and capsular bag to permit a relative axial motion of the anterior lens with respect to the posterior lens. Sarfarazi, page 18, line 22 to page 19, line 2. In one embodiment, illustrated in FIGS. 13 and 14, the accommodative intraocular lens system includes three lenses: an anterior lens, a posterior lens, and an intermediate lens. As the support members 70 elongate with movement of the zonula: (1) the anterior lens is

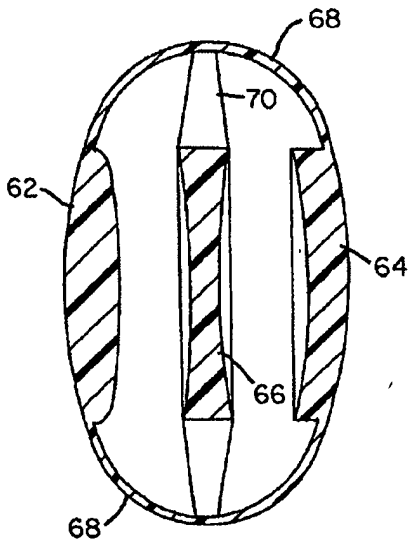

FIG. 14

the principal moving lens during accommodation, (2) the intermediate lens remains essentially axially stationary, and (3) the posterior lens may move axially a small degree but less than the anterior lens 62. Sarfarazi, page 20, line 19 to page 21, line 1.

Caldwell teaches an alternative means for providing accommodation to that of Sarfarazi. Specifically, Caldwell teaches an intraocular prosthesis (56) comprising a transparent, elastomeric optical element (57) and a porous skirt (68) which extends radially from the periphery of the element. An annular, flexible porous portion (68) of the skirt surrounds the optical element (57) and is disposed in contact with the tissues of the eye to allow fibrous growth into the pores of the porous portion. Caldwell, Abstract. The optical element 57 is configured to change shape in response to ciliary body contraction just as the normal lens does. Caldwell, column 12, lines 51-53. While Caldwell mentions axial motion in the background, the focus of his teaching is on a prosthesis or lens that differs from existing accommodating lenses in that an optic changes shape in response to ciliary body contraction by means of a porous skirt extending from the periphery of the optic that allows fibrous ingrowth of tissue into the skirt, thus allowing anchoring of the prosthesis in the eye (in order to provide accommodation). Caldwell, column 4, line 68 – column 5, line15 and column 5, lines 47-49.

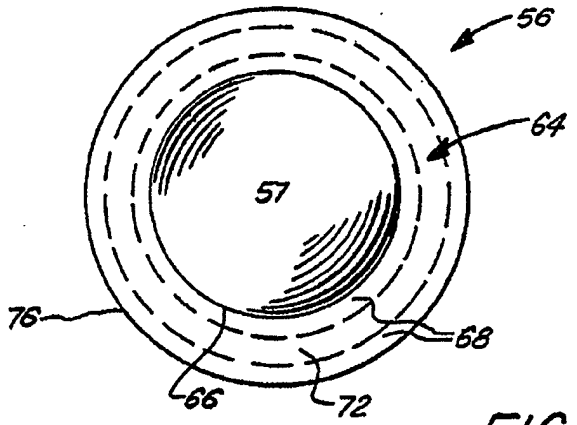

FIG. 4.

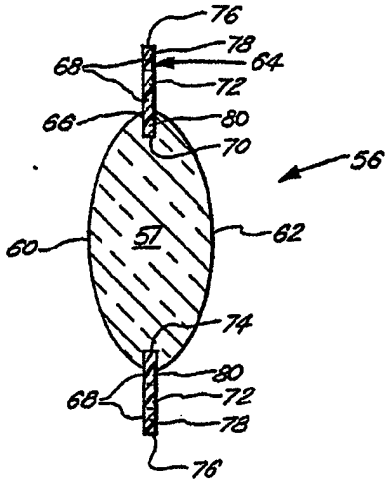

FIG. 4A.

By contrast, claim 1 of the present application is directed to an implantable intraocular lens comprising, in pertinent part, an optic and an optic positioning member operably coupled with the optic in order to change the shape of the optic between a first optic shape and a second optic shape,

the positioning member comprising anterior and posterior segments, said optic disposed between said anterior and posterior segments.

Neither Sarfarazi nor Caldwell, either alone or in combination, teach or suggest the combination recited in Applicants' claim 1 of an optic and a positioning member that changes the shape of the optic between a first optic shape and a second optic shape. The Examiner has asserted that it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Caldwell with the system of Sarfarazi, the alleged motivation to combine being that the resulting system would allow the lens to act as the natural lens of the eye does [in] providing the patient with the ability to focus on objects both near and far. Applicants traverse this assertion for at least the following reasons.

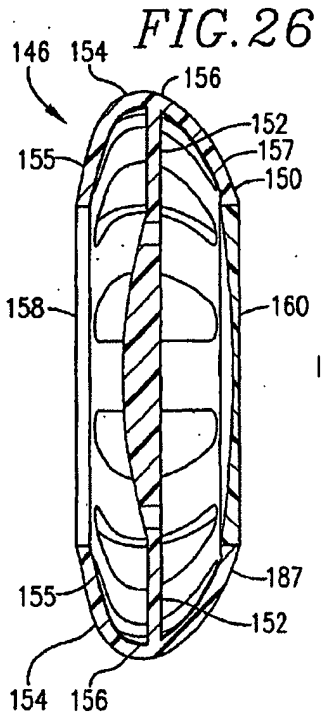

FIG. 26

While Sarfarazi and Caldwell both speak generally to accommodation they use different mechanisms of accommodation, which if combined would not be functional, and ultimately one of skill in the art would not look to combine them.

Sarfarazi does not teach a structure suited for deforming an intermediate lens

Firstly, one of skill in the art would not have a reasonable expectation of success by combining the teachings of Caldwell to those of Sarfarazi. For example, Sarfarazi teaches an intermediate lens 66 (Sarfarazi, FIG. 13) that remains essentially stationary. Sarfarazi, page 20, lines 20-21. In that regard, one may think of the intermediate lens as acting as a fixed, stationary anchor about which the anterior and posterior lenses move in a relative axial motion. This appears to be achieved through the use of support members 70 that elongate (stretches) during accommodation (Sarfarazi, page 20, lines 21-22), since it would be difficult, if not impossible, to provide the required flexure taught by Sarfarazi if (1) the intermediate lens 66 were stationary and (2) the support members 70 were rigid. Thus, Sarfarazi teaches elongation of the support members 70, which allows the elliptical haptic 68 to flex to enable relatively unrestricted accommodation movement of the anterior lens. Sarfarazi, page 8, lines 15-17. If Sarfarazi's intermediate lens 66 were replaced by Caldwell's deformable lens, the support members would likely absorb the forces themselves rather than transmit them to a Caldwell-type deformable optic. Thus, it will be

appreciated that the elongation or stretching ability of support member 70 specifically taught by Sarfarazi would not be favorable for transmitting the ocular forces necessary to deform a Caldwell-type optic in response to ciliary body contraction.

Therefore, one of skill in the art would not have a reasonable expectation of success by combining the teachings of Caldwell to those of Sarfarazi, since elongation of the support member 70 in response to ciliary body contraction would make it difficult, if not impossible, to transmit the forces necessary to deform an optic disposed in the location of the intermediate lens 66 in FIGS. 13 and 14 of Sarfarazi. Thus, using the combination of Sarfarazi and Caldwell proposed by the Examiner, forces produced by ciliary body movement of an eye would go into elongating the support members 70, rather than into changing the shape of an optical element connected to the support members.

The intraocular prosthesis of Caldwell would be rendered inoperative by the haptic system taught by Sarfarazi

Nor would one of skill in the art have a reasonable expectation of success in combining the teachings of Sarfarazi to those of Caldwell. Caldwell teaches a porous skirt 68 that surrounds an optical element 57 and that is disposed in contact with the tissues of the eye to allow fibrous growth into the pores of the porous portion. The prosthesis 56 connects to the lens capsule 122 through fibrous ingrowth into the pores of the skirt 68, thus allowing ocular element 57 to change shape. Caldwell, column 12, lines 45-51. Clearly, placing elliptical haptic shown in FIGS. 13 and 14 of Sarfarazi about the prosthesis 56 of Caldwell would render optical element 57 inoperative, since Caldwell requires that the porous skirt 68 be in contact with the tissue of the eye. Such contact would not be possible if the optical element 57 were disposed at the location of the intermediate lens 66, as suggested by the Examiner. In addition, elongation of the support members 70 in response to ciliary body contraction would preclude effective transmission of the ocular forces necessary to deform the optical element 57 of Caldwell, as discussed above in greater detail.

Sarfarazi does not teach or suggest changing the shape of an optic to provide accommodation

In addition to the above arguments, one of ordinary skill in the are would not have a motivation to combine the teachings of Caldwell to those of Sarfarazi, since Sarfarazi actually teaches away from using an optic that changes shape in response to ciliary body contraction. For example, Sarfarazi specifically teaches lenses with a selected (fixed) shape and dioptive power to

suit a particular patient's circumstances. Sarfarazi, page 20, lines 18-19. In contrast to providing accommodation by deforming an optic, as taught by Caldwell, Sarfarazi instead teaches providing accommodation by relative axial motion between lenses of a selected (fixed) shape and dioptive power for a particular patient. Sarfarazi, from page 20, line 18 to page 21, line 1.

In one instance, Sarfarazi teaches a total lens system power of 28 Diopters (i.e., the normal distance power required) that is created by the addition of the powers of the individual lenses (e.g., 4D, 4D, and 20D). The selected (fixed) power of each lens of the system may be varied, and the combination is chosen to add up to the required total for a specific patient. Sarfarazi, page 21, lines 1-6. Accommodation is then provided by axial movement of these lenses (i.e., to achieve near vision). Sarfarazi, page 20, lines 19-20. In contrast, Caldwell teaches providing accommodation by changing the shape of an ocular element 57 in response to ciliary body contraction.

Thus, one of skill in the art would not be motivated to add the teachings of Caldwell to the teachings of Sarfarazi, since Sarfarazi teaches away from a lens that changes shape, but instead teaches lenses with a selected (fixed) shape and dioptive power to suit a particular patient's circumstances.

Independent claims 16 and 20 have limitations similar to those recited in claim 1 and are patentable over Sarfarazi and Caldwell for reasons similar to those discussed above in relation to claim 1. Accordingly, at least because one of skill in the art would have neither a motivation to combine the teachings of Sarfarazi and Caldwell nor an expectation of success, Applicants request the Examiner allow independent claims 1, 16, and 20. Claims 2-15, 17-19, and 21-23 depend from claims 1, 16, or 20 and further define the invention of claims 1, 16, and 20. Thus, claims 2-15, 17-19, and 21-23 are patentable over Sarfarazi and Caldwell at least for the same reasons that claims 1, 16, and 20 are patentable thereover, and are patentable in their own right as well.

CONCLUSION

Applicant respectfully asserts that the claims now pending are allowable over the prior art. Therefore, Applicant earnestly seeks a notice of allowance and prompt issuance of this application.

The Commissioner is hereby authorized to charge payment of any fees associated with this communication to Deposit Account No. 502317.

Respectfully submitted,

Advanced Medical Optics

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